Jack Harrison

Rail Problems Disrupt Grain Shipments

The 1997 U.S. grain harvest was the second largest on record. U.S. production of corn, soybeans, wheat, sorghum, barley, oats, and rye totaled 15.8 billion bushels. Only the 1994 crop, with its 16.2 billion bushels of grains and soybeans, surpassed 1997's bumper crop. The harvest included the largest soybean crop and the third-largest corn crop ever recorded. But for all that, many grain shippers and receivers will remember this harvest for another reason—severe rail congestion.

During the second half of 1997, rail congestion in the western U.S. snarled traffic and brought freight shipments in some areas to a complete halt. Agricultural shippers in the southern Plains and western Corn Belt, like many other rail shippers in those regions, experienced serious rail service disruptions and lengthy shipment delays throughout the last half of 1997. The severity of the western rail service problems ultimately resulted in emergency action by the Surface Transportation Board (STB), the Federal agency responsible for oversight and regulation of the Nation's railroads. Only since late December has the situation improved substantially.

Rail service disruptions create serious problems for grain shippers, particularly in the western U.S. In 1995, 40 percent of all grain shipments moved to market by rail. For wheat, a key crop in the southern Plains, railroads move 60 percent or more of all shipments and as much as 75 percent of all export shipments. Even in the eastern U.S., where truck and barge transportation is more important, rail still accounts for more than 40 percent of all corn and wheat shipments. With railroads shipping more than 4.7 billion bushels of grain, on average, each year since 1990, any substantial rail service problems severely restrict the capacity of the entire U.S. grain handling and transportation infrastructure.

Starting in July, the recently merged Union Pacific/Southern Pacific Railroad system (UP/SP) experienced a cascading service failure. While opinions differ as to the actual precipitating cause, the difficulties first manifested themselves in the Houston, Texas, area.

Houston is home to many petrochemical facilities and is a critical port and rail hub. Too many cars were permitted into Houston's Englewood Yard, slowing the yard's operational efficiency and forcing incoming trains to pull into sidings before entering the yard. While trains were holding in the sidings, waiting for congested main lines and switching yards to clear, the 12-hour crew service limits specified in UP/SP's labor agreements expired. This forced UP/SP to find new crews, already in short supply because of growing traffic levels.

The problem worsened quickly. Crew shortages and congestion tied up locomotives badly needed elsewhere on the UP/SP system. UP/SP began to shift crews and locomotives from other parts of their system into the Houston area, but this simply compounded the problem.

Stronger-than-anticipated intermodal and petrochemical demand, incompatibility between the computer systems used by UP and SP, slow implementation of labor agreements between UP management and SP union employees, lack of adequate locomotive power, and a series of train accidents also served to complicate UP/SP's early attempts to reduce the Houston congestion. Some of these problems, particularly the shortage of locomotive power, reflected long-term operating problems inherited from the cash-strapped SP when UP acquired the line in 1996.

As UP/SP congestion snowballed, the fall harvest shipping season went into full swing. Troubles on the beleaguered UP/SP quickly spread to areas outside the southern Plains and to the other major grain-hauling western railroad, the Burlington Northern Santa Fe Railway Company (BNSF).

Western Feeders & Country Elevators Hardest Hit

Western livestock and poultry feeders located outside the traditional Grain Belt, and grain shippers in the southern Plains and western Corn Belt, were severely affected by the rail service problems that began in July and hindered grain shipments throughout the rest of 1997. Particularly hard hit were the country elevators in these regions that buy grain directly from producers and ship to domestic users or to larger interior and export grain handling facilities.

Disruptions and delays in rail service forced many western livestock and poultry feeders to shift to truck transportation for their feed supplies. Poultry feeders in Arkansas and east Texas shifted to grains

and feed products trucked from inland river points or from as far away as Missouri and Iowa. Western Plains hog feeders and California feedlot operators scrambled to secure steady supplies of feed grains and feed ingredients normally delivered by rail.

The problems that began for western feeders as early as August subsided substantially by mid-November. Country elevator shippers, however, continued to suffer from rail service problems. Shippers in the southern Plains states of Colorado, Kansas, Oklahoma, and Texas experienced service problems first and perhaps to the greatest extent. The size of the hard red winter (HRW) wheat crop surprised most observers. Production estimates for the four states increased throughout the summer as yield predictions grew from the trend estimates of 29.5 bushels per acre in early May to 35.3 bushels per acre by August.

Yields in Kansas, estimated in May at 32 bushels per acre, actually totaled 46 bushels per acre when the harvest was completed. The increased yield in Kansas alone added 150 million bushels of wheat to the crop. The unexpectedly large wheat crop and strong market signals to carry stored grain forward in expectation of higher prices left many grain elevators in the southern Plains full to capacity with little or no room for the record feedgrain harvest that followed.

Country elevator shippers in the western Corn Belt and corn producing areas of the northern Plains also experienced serious rail service problems during the final months of 1997. To a great extent, the rail service disruptions and delays in these areas were a spillover from problems that had started in the southern Plains. As congestion on UP/SP increased and demand to move grain grew with the fall harvest, service disruptions spread northward. Shippers in Minnesota, Nebraska, and the corn producing areas of North and South Dakota experienced these problems as the harvests in their areas came into full swing. Country grain shippers, particularly in Nebraska, experienced rail car placement delays and car order backlogs on UP/SP that often exceeded 30 days. Delays and backlogs for grain car orders were nearly as bad on BNSF, which ultimately was forced to cancel some of its guaranteed rail car service during the worst of the problems in November.

The inability to move harvested feed grains, particularly corn, forced many country elevator shippers to pile grain outside as they waited for empty rail cars that should have been at their facilities days or weeks earlier. With the approach of winter, the risk of quality deterioration in these outdoor grain piles increased rapidly. USDA's Farm Service Agency (FSA), which administers warehousing operations under the Commodity Credit Corporation, reported requests for emergency grain storage permits that totaled 93.7 million bushels at their peak in early November.

Only one state requesting emergency storage was east of the Mississippi River. Of the remaining states, Nebraska and Kansas led with requests totaling 45.9 and 18.6 million bushels. The 1997 FSA requests were the largest since the mid-1980's. Facilities not party to an FSA Uniform Grain and Rice Storage Agreement also reported outdoor storage, raising even further the total amount of grain piled outside awaiting shipment.

1997 Rail Disruption Unlike Typical "Rail Car Shortage"

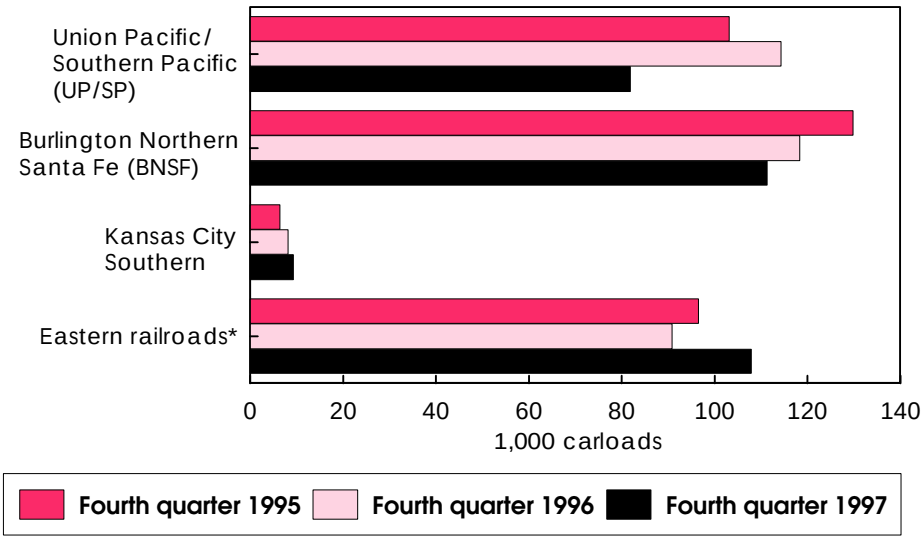
This past year's rail service problems were substantially different from the equipment shortages and service delays commonly referred to as "rail car shortages." Such shortages are typically associated with periods of strong demand for grain transportation driven by high levels of grain demand, especially for export.

In such markets, current grain prices typically exceed those for grain delivered months or even weeks in the future. These conditions create very real pricing signals for farmers and shippers to move grain now, not later. This can quickly overwhelm the shortrun capacity of the transportation system and leave many shippers waiting for available rail equipment.

Shippers have routinely experienced these types of problems in the past few years. By contrast, 1997's service problems resulted from the largest grain hauling railroads' inability to position and move their equipment—not from an overwhelming demand for grain transportation.

During the last half of 1995, when export demand was strong and many western

Western Grain Carloadings in Late 1997 Reflected Rail Problems



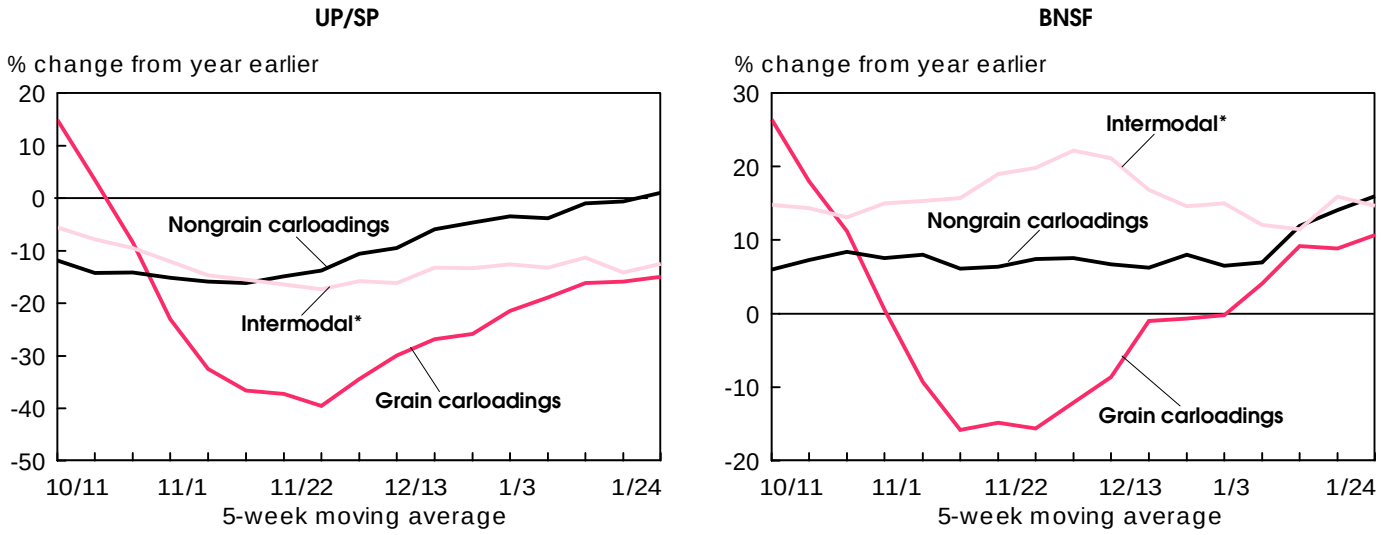
*Includes Conrail, CSX Corporation, Illinois Central Railroad Company, and Norfolk Southern Corporation.

Source: Association of American Railroads.

Economic Research Service, USDA

Agricultural Economy

Fourth-Quarter Grain Carloadings Down Sharply, in Contrast to Nongrain and Intermodal Shipments



1997/98 data.
* Intermodal shipments can be carried by more than one mode (e.g. truck, rail, barge) and are often high-value merchandise that carry penalties for late delivery.
Source: Association of American Railroads.
Economic Research Service, USDA

Corn Belt and northern Plains shippers experienced serious rail equipment shortages and service problems, grain carloadings on the major railroads averaged 29,000 per week. Grain carloadings during the last half of 1997 averaged just 22,800 per week.

The seriousness of the UP/SP and BNSF congestion problems and their substantial effect on shippers during the closing months of 1997 are apparent from comparisons of 1996 and 1997 quarterly grain carloadings on the major western railroads—BNSF, Kansas City Southern (KCS), and UP/SP. Third-quarter 1997 versus 1996 grain carloadings were up on all three of the western railroads but fell sharply during the fourth quarter of 1997 on BNSF and UP/SP. In the third quarter, BNSF was up 17 percent and KCS and UP/SP were up 10 percent over the previous year. In the fourth quarter, KCS carloadings were up 13 percent, but dropped 6 percent on BNSF and 28 percent on the troubled UP/SP. Taken together, grain carloadings on the three railroads were down an average 2,950 per week during the fourth quarter of 1997. This amounts to over 10 million bushels less of grain being moved each week during October-December 1997, compared with 1996.

Export grain shipments were also affected by the western rail problems. Although rail shipments of grain to export facilities nationwide during the fourth quarter of 1997 were virtually unchanged from 1996, rail shipments to export houses along the Texas Gulf Coast were down 10 percent.

Despite congestion-related reductions in rail capacity, greater use of truck and barge transportation in the southern Plains allowed exports of HRW wheat to increase 60 percent in the fourth quarter of 1997 over 1996—HRW wheat export inspections at Texas and Louisiana export elevators showed increases of 74 and 288 percent. The nearly three-fold increase in HRW wheat export inspections at elevators along the Mississippi River in Baton Rouge and New Orleans, Louisiana, reflect increased barge shipments of HRW wheat. These barge shipments originated from inland river facilities in Oklahoma along the Arkansas River and at Kansas City on the Missouri River.

Not all of this shift to barge transportation was driven by the western rail problems. But the share of HRW wheat exports moving off the Mississippi River did increase from 4 percent during the fourth quarters of 1994-96 to 10 percent during the fourth quarter of 1997.

Surface Transportation Board Takes Emergency Action

As the scope of the railroad service problems in the western U.S. became evident, shippers began to press the STB for relief. In response, STB instituted a proceeding (STB Ex Parte No. 573) and scheduled a public hearing to provide individuals an opportunity to report on the status of rail service in the western U.S. and to review proposals for solving the service problems.

All of the western railroads and a variety of shippers, shipper groups, and local and state officials participated in this public hearing, held in Washington, DC, on October 27, 1997. USDA, fulfilling its statutory authority and responsibility to represent the transportation interests of agricultural producers and shippers by participating in STB proceedings, reported concern about the declining quality of western railroad service, particularly about how these service problems were affecting grain storage.

Following this public hearing, STB concluded that a transportation emergency did exist. To facilitate a resolution, STB directed that a number of specific actions be taken to address the severe congestion

problems affecting the Houston area and to free up facilities throughout the UP/SP system. By using its emergency powers so aggressively, STB confirmed the severity of the rail service emergency—STB's emergency powers are rarely invoked except when a railroad ceases operations due to bankruptcy. At the request of USDA, STB required UP/SP to make a weekly report detailing its service performance to agricultural shippers.

By law, the STB can direct service only on a temporary basis. With its 30-day service order scheduled to expire, the STB scheduled another public hearing on December 3, 1997. At the hearing, USDA reported that there had been little, if any, improvement in western railroad service to agricultural shippers. As evidence, USDA noted that grain shipments on both UP/SP and BNSF had fallen dramatically compared with prior-year levels. The amount of grain approved for emergency storage, USDA added, was almost entirely related to the inability of the western railroads to provide adequate service to agricultural shippers.

The following day, STB found that although service was showing some signs of improvement, the transportation emergency in the West continued to exist. STB then extended and modified its service order for an additional 90 days. Agricultural commodities were recognized as a key concern, and STB ordered both UP/SP and BNSF to provide weekly reports of their agricultural transportation performance.

Since early December, service provided by the BNSF has returned to normal levels, but UP/SP continues to lag its prior-year performance.

Grain Output & Storage Affect Rail Demand

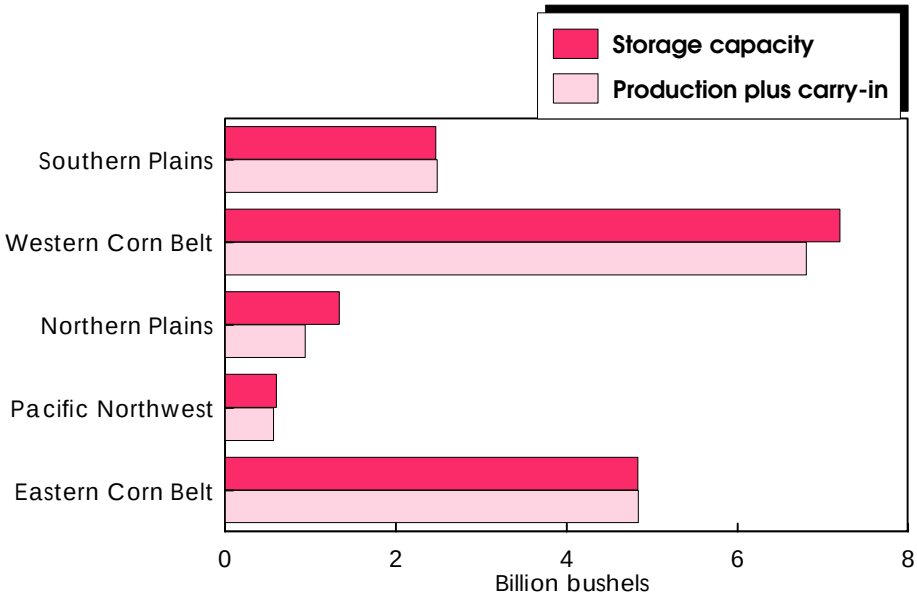
The differences in factors that lead to a smooth postharvest shipping season and those that result in one like 1997's can be relatively small. The level of production and carry-in stocks of grains and soybeans relative to available storage provides a good indicator of the need for harvest-time grain transportation. In 1996, when shippers experienced few problems during the postharvest season, grain and soybean production totaled 15.3 billion bushels, just 3 percent lower than in 1997. With the addition of carry-in stocks, this volume of grain amounted to 88 percent of total on- and off-farm storage capacity. (Storage capacity at export facilities is not included in off-farm capacity in these comparisons.) In 1997, with carry-in stocks up 43 percent, production plus carry-in equaled 94 percent of total storage capacity—up just 6 percentage points from 1996.

However, this measure—production and carry-in stocks relative to storage—was not uniform across the U.S., indicating the importance of providing adequate rail service to key producing regions. In the hard-hit southern Plains states of Colorado, Kansas, Oklahoma, and Texas, production and carry-in stocks equaled 101 percent of storage capacity. In Kansas, possibly the state most adversely affected by the rail service problems, production and carry-in was 117 percent of storage capacity. In the western Corn Belt states of Iowa, Minnesota, Missouri, Nebraska, and South Dakota, production plus carry-in totaled only 95 percent of storage capacity for the region, but for the states most affected by the rail problem—Missouri, Nebraska, and South Dakota—the measure was 100 percent.

In the eastern Corn Belt—Illinois, Indiana, Michigan, Ohio, and Wisconsin—production and carry-in stocks also equaled 100 percent of storage capacity. Shippers in these states, however, faced only minor rail-related transportation problems. Slowed shipment times and delays in placements of empty grain cars for loading were largely the result of high grain transportation demand in the East. Some covered hopper rail cars used to move fertilizers into the West during late summer were also trapped in the western rail congestion and slow to return to eastern railroads for harvest-period grain service.

The availability of barge and truck transportation, however, combined with increased service by the eastern railroads—Conrail, CSX Corporation, Illinois Central Railroad Company, and Norfolk Southern Corporation—kept harvested grain moving out of local facilities. Grain carloadings on the eastern railroads actually increased by 19 percent during the fourth quarter of 1997, compared with 1996.

1997 Grain Production and Carry-in Stocks Were Close to Storage Capacity in All Regions



Source: National Agricultural Statistics Service, USDA.

Economic Research Service, USDA

Agricultural Economy

A wide variety of factors affect the Nation's grain marketing and transportation infrastructure. These factors can contribute to an efficient and smoothly operating marketing system or grind the system to a halt, forcing country grain elevators to pile grain outside and leaving grain users struggling to meet short-term needs. As 1997's western rail service crisis demonstrated, operating problems that begin on a single railroad can quickly snowball into widespread service disruptions that affect shippers and receivers in many regions.

The 1997 western rail service crisis provides an example of the increased importance of an adequate grain handling and transportation infrastructure in an era when grain production and marketing decisions are driven by market signals, not government programs. Producer planting and marketing flexibility is dependent upon the ability of the grain handling and transportation system to adjust quickly to changing market conditions and customer needs.

The actions taken by STB in response to last year's service problems were one-time emergency actions directed specifically at the UP/SP situation. Those actions are presently set to expire on March 15, 1998. Rail transportation problems, however, will likely confront grain shippers again. While the outcome may be much the same, the causes of future problems will likely be substantially different from those that led to the 1997 western rail service emergency.

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March

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*20 Agricultural Outlook**
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*26 Fruit and Tree Nuts**
**Release of summary, 3 p.m.*
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